

In response to applicant's telephone inquiry of March 11, 2008 regarding the last Office action, the following corrective action is taken.

The period for reply of three MONTHS set in said Office Action is restarted to begin with the mailing date of this letter.

A complete copy of the last Office Action is enclosed.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claim 22 have been considered but are moot in view of the new ground(s) of rejection.

In fig. 7 of Viret, Viret discloses the dots are formed on back surface of the light transmitting block or the dots can be provided on a separate material which can be placed on a back surface of the light transmitting block (col. 4, lines 25-35). Moreover, Viret discloses the light diffusing dots are and/or more densely distributed the further away they are located from the light source in order to diffuse the light rays impinging thereon and produce a uniform transillumination (see col. 3, lines 55-70).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 21 and 22 recites the limitation "the light guiding material" in line 8 and line 2 respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-21 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradford (6,612,055) in view of Wein (5,880,430).

Regarding claim 16, Bradford discloses a manufacturing method for production of an edge-illuminated sign with one or more figures having a large relief effect and a strong luminescence, the method comprising- providing a transparent, light guiding material 12 having a surface.

However, Bradford fails to disclose forming a relief of a figure in the light guiding material by using a laser beam to vaporize the light guiding material in proportion to an input amplitude- and frequency-controlled amount of laser power; and controlling a the laser beam using a master program that makes the laser beam scan a line pattern at

the same time as the laser beam is modulated by a frequency that controls the amplitude of the input power to the laser and thereby creates a screen pattern at the same time as an image program is superposed to control the and scanning frequency, so that the input laser power with amplitude variations proportional to the relief of the figure will burn at different depths and thereby form the relief of the figure such that the entire relief of the figure is recessed in the light guiding material. Instead, Wein discloses forming a relief of a figure 19 in material by using a laser beam to vaporize the light guiding material in proportion to an input amplitude- and frequency-controlled amount of laser power (col. 3, lines 60-67); and controlling a the laser beam using a master program 10 (col. 3, line 30; see fig. 1) that makes the laser beam scan 12 (col. 3, line 24; see fig. 1) a line pattern at the same time as the laser beam is modulated by a frequency that controls the amplitude of the input power to the laser and thereby creates a screen pattern at the same time as an image program is superposed to control the and scanning frequency, so that the input laser power with amplitude variations proportional to the relief of the figure will burn at different depths (col. 4, lines 1-5) and thereby form the relief of the figure such that the entire relief of the figure is recessed in the light guiding material. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the teaching of Wein in the invention of Bradford for the purpose of creating an inexpensive three dimensional sign.

Even though, Wein distinctly fails to disclose the master program scans the line pattern and the frequency of the amplitude can be varied to create scan pattern which is either proportional or different than the true line pattern. However, Wein discloses many

software program is available to scan a line pattern and create a design to engrave in a work-piece. It is well known in scanner technology the screen pattern created by the scanner is proportional to the line pattern, and with the help of the computer software the screen pattern can be altered from the line pattern to create a desired shape.

Regarding claim 17, Bradford fails to disclose lines of the line pattern have a distance from each other that is essentially equal to the length of the screen pattern. Even though, Wein distinctly fails to disclose the master program scans the line pattern and the frequency of the amplitude can be varied to create scan pattern which is either proportional or different than the true line pattern. However, Wein discloses many software program is available to scan a line pattern and create a design to engrave in a work-piece. It is well known in scanner technology the screen pattern created by the scanner is proportional to the line pattern, and with the help of the computer software the screen pattern can be altered from the line pattern to create a desired shape. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to create a scan pattern equal to a line pattern because it is simple and inexpensive.

Regarding claim 18, Bradford fails to disclose lines of the line pattern have a distance from each other that is essentially equal to about 0.1 mm. However, the applicant has failed to mention the reason for having this limitation in the specification. As it appears, the invention will work equally with more or less than 0.1 mm. It would have been obvious to one of ordinary skill in the art at the time of invention to make the line patterns at any distance as desired.

Regarding claim 19, Bradford fails to disclose the lines of the line pattern have a distance from each other that is different from the length of the screen pattern. Wein discloses the depth of screen pattern can be varied by adjustment of the laser power. The greater the power the greater the depth of laser beam (col. 4, lines 1-10) penetration into work piece, from which it can be understood the screen pattern can be varied than the line pattern scanned by a program. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the teaching of Wein in the invention of Bradford for the purpose of creating a three dimensional effect with a varying depth.

Regarding claim 20, Bradford fails to disclose the lines of the line pattern have a distance from each other that are larger or smaller than the length of the screen pattern obtained by the frequency that controls the amplitude of the input laser power and thereby can create screen patterns of differing character. Even though, Wein distinctly fails to disclose the master program scans the line pattern and the frequency of the amplitude can be varied to create scan pattern which is either proportional or different than the true line pattern. However, Wein discloses many software program is available to scan a line pattern and create a design to engrave in a work-piece. It is well known in scanner technology the screen pattern created by the scanner is proportional to the line pattern, and with the help of the computer software the screen pattern can be altered from the line pattern to create a desired shape. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to create a scan pattern equal to a line pattern because it is simple and inexpensive.

Regarding claim 21, Bradford discloses an edge-illuminated electric sign 10 (col. 3, line 40; see fig. 1) comprising a light transmitting material 12 (col. 3, line 41; see fig. 1) having a first edge arranged to receive light from a light source 50 (col. 6, line 3; see fig. 6) into the light transmitting material 12 and a surface, said light transmitting material 12 comprising one or more figures 16 (col. 3, line 42; see fig. 1) in form of a recess 14 (col. 3, line 42; see fig. 3) in the light transmitting material 12, wherein said recess 14 of the one or more figures 16 form a relief 18 (col. 3, line 43; see fig. 3) having a surface comprising a screen pattern 20 (col. 3, line 44; see fig. 3) with varying depth to provide strong luminescence.

However, Bradford fails to disclose each figure being in a form of a relief recessed and wherein the entire relief is recessed in the light guiding material. Instead, Wein discloses with laser engraving technology three dimensional figures 19 (col. 4, line 55; see fig. 5) can be recessed in a form of a relief recessed in a material, wherein the entire relief is recessed in the material. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the teaching of Wein in the invention of Bradford for the purpose of providing a three dimensional effect.

Regarding claim 38, Bradford fails to disclose the screen pattern comprises rectangular parallelepipeds in juxtaposition to each other and due to the nature of the laser beam vertical surfaces are sloping. Even though, Wein distinctly fails to disclose the master program scans the line pattern and the frequency of the amplitude can be varied to create scan pattern which is either proportional or different than the true line pattern. However, Wein discloses many software program is available to scan a line

pattern and create a design to engrave in a work-piece. It is well known in scanner technology the screen pattern created by the scanner is proportional to the line pattern, and with the help of the computer software the screen pattern can be altered from the line pattern to create a desired shape. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the teaching of Wein in the invention of Bradford for the purpose of providing a three dimensional effect.

Claims 22-25, 33, 36, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradford in view of Wein as applied to claim 21 above, and further in view of Viret et al. (3,241,256).

Regarding claims 22 and 39, Bradford fails to disclose a film or foil with a screen pattern, in which the screen pattern has a fineness proportional to the luminescence desired in different positions of the background and that the fineness is also proportional to the distance to the illuminated edge. However, Viret et al. disclose a film or foil with a screen pattern 22 (col. 3, line 37; see fig. 7), in which the screen pattern has a fineness proportional to the luminescence desired in different positions of the background and that the fineness is also proportional to the distance to the illuminated edge (col. 3, line 55-60; see fig. 7; where it shows the dots are of different shape proportional to the illumination desired). Therefore, it would have been obvious to one of ordinary

skill in the art at the time of invention to use the teaching of Viret et al. in the invention of Bradford for the purpose of providing the desired brightness distribution.

Regarding the limitation of the screen pattern being produced by controlling a laser beam using a master program that makes the laser beam scan a line pattern at the same time as the laser beam is modulated by a frequency that controls the amplitude of the input power to the laser and thereby creates a screen pattern at the same time as an image program is superposed the amplitude- controlled scanning frequency, so that the input laser power with amplitude variations proportional to the desired figure will burn at different depths and thereby give a relief of the figure, in the sign, the relief having a surface comprising a screen pattern with varying depth to provide strong luminescence, the limitation is considered as a method of manufacturing. And since the method is included in an article, the limitation has been given no further consideration by the office. As examined by the office, all the structures as claimed in the article claim are present in prior art.

Regarding claim 23, Bradford disclose a first mounting device, that is adapted to position and/or protect light-emitting elements at or inside an edge portion of said electric sign (see figure A below).

Regarding claim 24, Bradford discloses said mounting device is a continuous element that is arranged along a main part of said edge portion (see figure A where is shows the mounting device is one element).

Regarding claim 25, Bradford discloses said mounting device is provided with at least one connecting means, arranged to enable positioning of the electric sign at a desired location. The top portion of the mounting device is plane and can be inserted as a male or female element to any other connectors.

Regarding claim 33, Bradford fails to disclose said mounting device is an extruded element. However, the figure shows a continuous element that can be made of extrusion or any other method. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to make the mounting device an extruded profile element because it only requires common knowledge to do so.

Regarding claims 36 and 40, Bradford fails to disclose the fine mesh comprises a film or foil. Viret et al. fail to disclose the fine mesh comprises a film or foil. However, Viret et al. disclose the mesh or the dots can be provided or etched on an opaque material and can be provided on the back side of the sign (col. 4, lines 30-35). Therefore, it would have been obvious to one of ordinary

skill in the art at the time of invention to use the teaching of Viret et al. in the invention of Bradford for the purpose of providing the desired brightness distribution.

Claims 26-28 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradford in view of Wein and Viret et al. as applied to claim 25 above, and further in view of Donovan (4,166,332).

Regarding claim 26, Bradford discloses that said connecting means is comprises a male or female element (the top portion of the mounting device can be a male element for interaction with a female element). However, Bradford as modified fails to disclose of a mounting strip having a therefore adapted male of female element, for mounting of the electric sign. Instead, Donovan discloses a mounting of strip 22 (col. 2, line 68; see fig. 2) having therefore adapted female element for interaction with

mounting device 17 (col. 2, line 63; see fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the teaching of Donovan in the invention of Bradford as modified for the purpose of connecting the sign in a variety of fashions.

Regarding claim 27, Bradford as modified discloses said mounting device is provided with at least two connecting means, arranged at different angles in relation to each other. The two side walls of the mounting device can be used as connecting means to connect with a wall or other connectors (see figure A above).

Regarding claim 28, Bradford discloses said mounting device is provided with at least two connecting means displaced by 90° (see figure A above).

Regarding claim 35, Bradford as modified fails to disclose said mounting strip is an extruded element. However, Donovan discloses said mounting strip is an extruded element (col. 2, line 23). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the teaching of Donovan in the invention of Bradford as modified because it only requires common knowledge in the art.

Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradford in view of Viret et al. as applied to claim 23 above, and further in view of Chao et al. (4,028,828).

Regarding claim 29, Bradford fails to disclose said mounting device, at least at one of its end portions, is provided with a connector that is connected to said light-emitting elements. However, Chao et al. disclose said mounting device 21 (col. 2, line 21; see fig. 4), at least at one of its end portions, is provided with a connector 33 (col. 3,

line 4; see fig. 5) that is connected to said light-emitting elements. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the teaching of Chao et al. in the invention of Bradford as modified for the purpose attaching multiple illuminated signs together.

Regarding claim 30, Bradford fails to disclose that said mounting device is provided with connectors at both ends. However, Chao et al. disclose that said mounting device is provided with connectors at both ends (col. 3, lines 5-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the teaching of Chao et al. in the invention of Bradford as modified for the purpose attaching multiple illuminated signs together on both sides of the sign.

Regarding claim 31, the claim is rejected as set forth in claim 29.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SYED A. ISLAM whose telephone number is (571)272-7768. The examiner can normally be reached on Monday-Friday 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley D. Morris can be reached on (571) 272-6651. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 3611

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/S. A. I./

Examiner, Art Unit 3611

/Lesley D. Morris/

Supervisory Patent Examiner AU 3611